CLAIMS:

1. (previously presented) A method of manufacturing an insulated component, the method comprising:

providing a substrate having a surface;

depositing a layer of ceramic insulating material on the substrate surface; and

forming a continuous gap in a top surface of the layer of ceramic insulating material to define segments therein, the continuous gap having a width at the top surface of less than 100 microns;

further comprising forming the continuous gap by:

exposing the top surface to a first pass of laser energy having a first parameter to form the continuous gap; and

exposing the continuous gap to a second pass of laser energy having a second parameter different than the first parameter to change a geometry of the continuous gap.

2. (original) The method of claim 1, further comprising forming the continuous gap to have a width of less than 75 microns.

3. (original) The method of claim 1, further comprising forming the continuous gap to have a width of less than 50 microns.

4. (original) The method of claim 1, further comprising forming the continuous gap to have a depth that does not extend through an entire thickness of the layer of ceramic insulating material.

5. (original) The method of claim 1, further comprising forming the continuous gap using a laser engraving process.

6. (previously presented) The method of claim 1, further comprising:

forming a first plurality of continuous gaps to a first depth into the top surface; and

forming a second plurality of continuous gaps to a second depth different than the first depth into the top surface.

7. (cancelled).

8. (previously presented) The method of claim 1, wherein the second pass of laser energy has a wider beam footprint than that of the first pass of laser energy.

9. (previously presented) The method of claim 1, wherein the second pass of laser energy has a pulsation frequency that is greater than that of the first pass of laser energy.

10. (original) The method of claim 1, further comprising forming the continuous gap using laser energy delivered through a fiber optic cable.

11. (original) The method of claim 1, further comprising forming the continuous gap with a laser engraving process using a lens having a focal length of at least 160 mm in order to reduce accumulation of molten material splashed onto the lens during the laser engraving process.

12. (currently amended) A method of manufacturing an insulated component, the method comprising:

providing a substrate having a surface;

depositing a layer of ceramic insulating material on the substrate surface; and

forming a ~~pattern of grooves~~ groove in a top surface of the layer of ceramic insulating material, ~~the pattern~~ a longitudinal axis of the groove formed ~~to coincide~~ parallel with a direction of a fluid stream over the top surface when the component is in use.

13. (original) The method of claim 1, further comprising forming a plurality of continuous gaps in the top surface at a spacing between adjacent gaps of less than 750 microns.

14. (original) The method of claim 13, further comprising forming the plurality of continuous gaps in the top surface at a spacing between adjacent gaps of less than 500 microns.

15. (original) The method of claim 13, further comprising forming the plurality of continuous gaps in the top surface at a spacing between adjacent gaps in a range of 500-750 microns.

16. (currently amended) The method of claim 1 further ~~A method of manufacturing an insulated component, the method~~ comprising:

providing a substrate having a surface;

depositing a first layer of ceramic insulating material on the substrate surface;

forming a first plurality of continuous gaps in a top surface of the first layer;

depositing a second layer of ceramic insulating material on the top surface of the first layer; and

forming a second plurality of continuous gaps in a top surface of the second layer.

17. (original) The method of claim 16, further comprising forming each of the gaps in the top surface of the second layer to have a width at the top surface of less than 100 microns.

Claims 18-35 (cancelled).

36. (previously presented) The method of claim 16, wherein the first plurality of continuous gaps defines a preferential failure interface between the layers of ceramic insulating material, and further comprising depositing the second layer of ceramic insulating material to a critical depth selected to allow the deposited ceramic insulating material to spall along the preferential failure interface in response to an expected thermal transient in order to present a fresh layer of the ceramic insulating material to a surrounding high temperature environment.

37. (previously presented) The method of claim 1, further comprising exposing the continuous gap to the second pass of laser energy to widen a bottom of the gap into a generally U-shaped bottom geometry.

38. (previously presented) A method of manufacturing an insulated component, the method comprising:

providing a substrate having a surface;

depositing a layer of ceramic insulating material on the substrate surface to have a first void fraction in a bottom portion proximate the substrate surface and to have a second void fraction, less than the first void fraction, in a top portion proximate a top surface of the layer of ceramic insulating material; and

forming a groove in the top surface of the layer of ceramic insulating material to define a plurality of segments therein, the groove being formed by exposing the top surface to a plurality of passes of laser energy having respectively different parameters to widen a bottom of the groove to have a generally U-shaped bottom geometry.

39. (previously presented) The method of claim 38, further comprising forming the groove to follow a path coinciding with a direction of a fluid stream flowing over the top surface when the component is in use.